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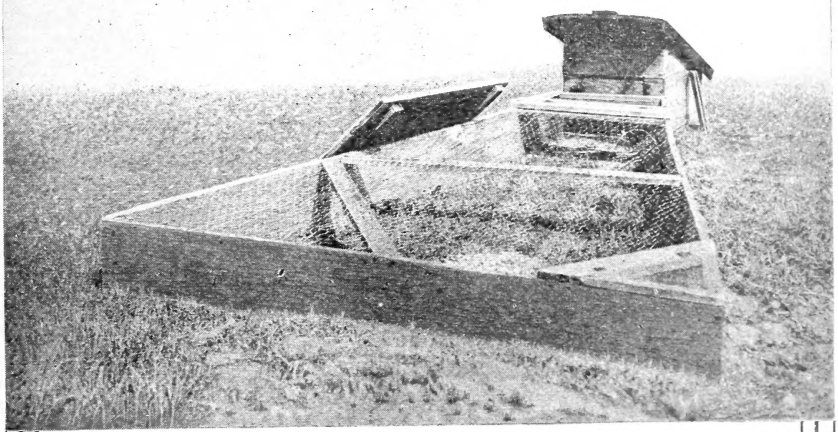
BUREAU OF ANIMAL INDUSTRY

PROTECTING POULTRY *from* PREDACIOUS BIRDS



LEAFLET NO. 96

PREDACIOUS BIRDS are not sweepingly condemned in this publication. On the contrary, the Bureau of Biological Survey advocates protection for all hawks and owls except the Cooper's and sharp-shinned hawks, the goshawk, and the great horned owl. Many hawks and most owls are great consumers of small rodents, and the economic effects of their feeding habits are decidedly in the right direction.

Prevention is here emphasized as the more desirable means of protecting poultry against the birds of prey, for it safeguards the poultry without resort to the destruction of chiefly valuable wild birds.

Furthermore, these birds enjoy a considerable degree of legal protection. Some States single out the bald eagle and the fish hawk for protection, but, with the exceptions noted and sometimes with others, hawks in general are protected by more than 20 States, and more than 30 protect all or most owls.

Anyone contemplating aggressive action against hawks or owls should consult the conservation department of his State as to their legal status.

Washington, D.C. September 1933

PROTECTING POULTRY FROM PREDACIOUS BIRDS

By W. L. McAtee, *principal biologist, in Charge Division of Food Habits Research, Bureau of Biological Survey*

DAMAGE BY BIRDS to farm products is greatest, as a rule, during the pioneer phase of agricultural development. In no case is this more obviously true than in losses among poultry. The brood that roams in a small clearing has the maximum number of enemies, and may suffer serious losses. When poultry is negligently allowed to roost in trees, owls are virtually invited to prey upon it. As improvement in penning and housing is made, losses caused by predacious birds and animals decrease until, under the modern methods used in the most highly developed commercial poultry production, such losses practically cease. This proves the value of preventive measures. There is no need to worry about the presence of predatory species when they cannot get at the poultry. Permitting destruction and then trying to kill the predators is "locking the barn after the horse is stolen."

Preventive measures are desirable because most of the predacious birds are valuable as destroyers of rodents or of insects; therefore, it is not advisable to kill them whenever opportunity offers. On the contrary, the Bureau of Biological Survey has found that hawks and owls are among "the most valuable birds that wage war against the foes of the agriculturist."[1] Only three kinds of hawks, the sharp-shinned hawk, the Cooper's hawk, and the goshawk (the latter rare), all of the type commonly known as "blue darters," and only one owl, the great horned owl, are regarded as generally subject to control. Even in their case it is best to kill only the known individual offenders, a policy that should never be deviated from in dealing with the other 25 or more species of hawks and 15 or more kinds of owls that inhabit the United States.

Preventive Measures

Hens incubating eggs are usually housed, and the first step in protection is thus taken. After the brood is hatched, a hen with young can be kept in a movable pen consisting of a weatherproof and enemy-proof coop with attached wire-enclosed range (fig. 1). The coop should be entirely enclosed, bottom as well as sides and roof, and so constructed that the hen and brood can be shut up safely at night and yet have sufficient ventilation through holes too

[1] See Biological Survey Circular 61, Hawks and Owls from the Standpoint of the Farmer. For sale at 5 cents a copy by the Superintendent of Documents, Government Printing Office, Washington, D.C.

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small for enemies to enter. The run may have board sides or may be built on a light frame; it should have no bottom, so that the chicks can graze and gather insects. When this enclosure is shifted to new turf frequently, sanitation is adequate and growth is promoted. Protective measures require only slight and inexpensive

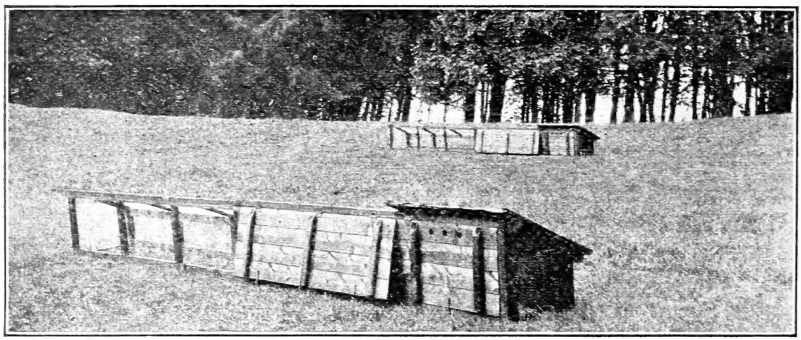

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FIGURE 1.—Movable coops and runs.

departures from the usual free-range system used on farms and will prevent many of the losses caused by predatory enemies.

Use of brooding and rearing houses is another important step in preventing losses through predators. These houses may be built with adjoining wire-covered yards (fig. 2), or small ones may be on run-

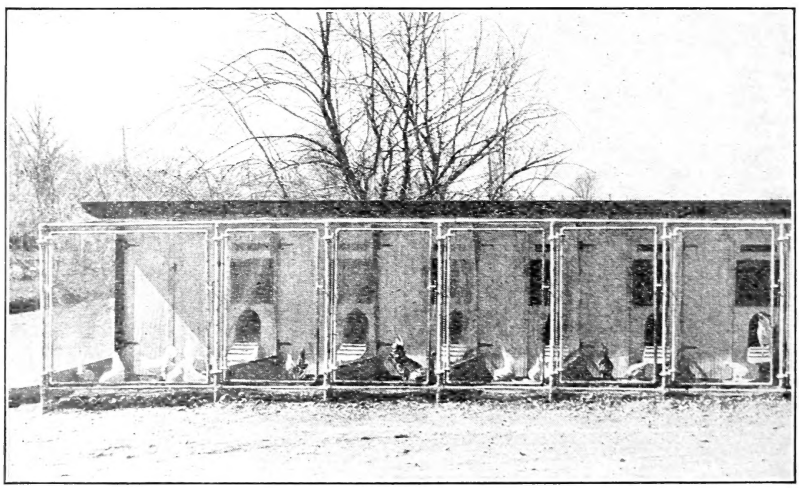

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FIGURE 2.—Poultry house with enclosed runs.

ners and the yards may be of portable construction, so that the whole equipment can be moved to fresh ground. Portable fencing is supported on light poles put in the ground in holes made with a crowbar. The lower course of the fence may have a single furrow turned over its base, and the courses of the sides and top of the yard can

be pinned together with nails. This type of yard can readily be taken down and the wire rolled up and moved. On account of the wear and tear it thus undergoes it is usually made, for economy, of wire that is galvanized before being woven.

Poultry production tends toward more artificial methods, the most advanced phase being the development of battery brooding plants, in which the birds have neither direct sunlight nor succulent green feed. These plants are increasing in number,[2] and they may become a factor of considerable importance in commercial poultry production. The raising of chickens in confinement is also advantageous because of the freedom attained from parasites and some diseases, the more rapid growth obtained, and the land and labor saved.

Total confinement of poultry being practicable, it is evident that almost any degree of it can be adopted. From the point of view of protection from predatory enemies it is certain that the results will be in direct proportion to the degree of enclosure provided. On account of cost many poultry raisers may not find it practicable to go very far in providing enclosures, but even so it may be said that if in endeavoring to protect poultry from predators they merely furnish hatching coops, keep growing chicks in closed runs, and train grown fowls to roost in houses, they will prevent most of the destruction ordinarily caused by hawks and owls.

Aggressive Measures

When preventive methods cannot be practiced at all, and it is to be hoped that this will be in a minority of cases, aggressive measures will have to be employed. Even then it should be kept in mind that the destruction of offending individuals, not eradication of the race, is the object.

Since hawks and owls prey almost exclusively upon living creatures it is impracticable to poison them. So far as is known there is no foundation for the frequent claim that these birds can be poisoned by feeding chickens with nux vomica (strychnine) and thus impregnating the flesh of the fowls with enough poison to kill a predator.

Trapping is the most effective aggressive measure. Though, as a rule, hawks and owls cannot be attracted by dead baits, they may return to such of their own kills as they do not consume at the first meal. Advantage of this habit may be taken by setting steel, or jump, traps about the carcass, concealing them with feathers or other light litter. In difficult cases living bait may be used, though bait animals should not be kept long in strong sunlight, which will kill them. The method is best used in shaded places or on cloudy days. A trap especially designed for using living bait is illustrated in figure 3.

The most common device for trapping birds of prey is an ordinary steel, or jump, trap set on the flat top of a post or hole and fastened to it by a chain. Unless modified, however, these traps instantly kill small birds that get into them and usually cause lingering death to larger birds which, in their struggles, fall with the trap from the top

[2] For further information see Farmers' Bulletin 1538, Incubating and Brooding of Chickens.

of the pole and hang head down. Birds that retain their perch on the top of the pole may have one or both legs so injured that it will be necessary to kill them. These troubles can be avoided in part by attaching the chain of the trap to a large ring around the pole, or to a smaller ring on a wire, so that the trap will slide to the ground when it is moved from the top of the pole. This permits any useful bird that has not been crippled by the first grip of the trap to be released alive.

The number of pole traps may be greatly reduced and the effectiveness of those in use retained, by tapering the tops of the fence posts to a point, or guarding flat-topped posts by inserting in each an erect, slender wire to prevent large birds from perching upon them. By so treating all the fence posts except selected posts or poles that are provided with traps, the large birds will be forced to alight on the

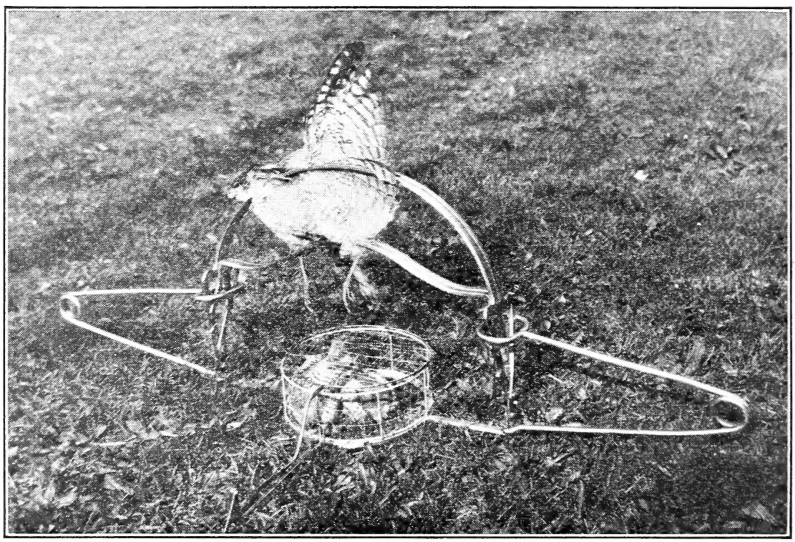

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FIGURE 3.—A hawk trap said to have a highly selective record in catching hawks of the blue-darter group. Photo by courtesy of Alvin F. Hahus.

latter. Some hawks habitually perch to watch for rodents and other prey, and while these hawks are of the species least destructive to birds, they are the very ones most frequently caught in pole traps. The bold, dashing bird hawks are more likely to come skimming over the tops of fences and pounce without pause upon the first victim that offers.

Not only should the number of pole traps be reduced to the minimum, however, but the objectionable features of those in use should be lessened. Breaking the legs of larger birds can be prevented by wrapping the jaws of the trap near the ends with hard cord sufficiently thick to keep the jaws well separated when the trap is

sprung. This will enable the trap to hold the larger birds but will permit the escape of such smaller ones as are not disabled when struck by the jaws of the trap.

Indiscriminate killing of various small birds is the greatest fault of pole traps. If the traps are kept set at all times, a number of small birds will be killed for every hawk captured, and flickers, red-headed woodpeckers, kingbirds, and bluebirds will be found dead in pole traps. Such destruction of innocent birds not only constitutes unnecessary cruelty but also is wasteful of useful bird life and in most cases is in violation of Federal or State law. Killing small birds by pole traps can be avoided, in part, by setting the traps too "heavy"[3] for such birds to spring them. This is done by regulating the depth in the notch to which the trigger of the trap is adjusted or by putting under the pan a twig, a light coil spring, or a pad of cotton that will yield under the weight of a large bird but not under that of a small one. Both legal and humanitarian considerations require that the use of pole traps be carefully regulated. If they are not used with moderation, legislation entirely forbidding their use may be expected.[4] As soon as the need of protecting poultry has passed the pole traps should be removed so as to end danger to innocent birds.

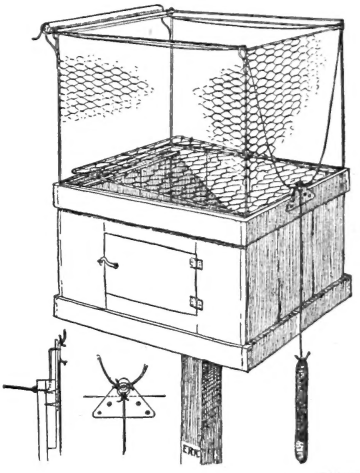

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FIGURE 4.—"Basket" trap for hawks. A live chicken or pigeon is kept in the lower part of the trap as bait. A hawk endeavoring to strike the fowl depresses the wire-netting floor of the upper part of the trap and releases the weight, which pulls over the top of the trap the rolled curtain shown at the left.

Because of their selective destruction of the less harmful hawks, and their danger to bird life in general, pole traps should be replaced as rapidly as practicable by traps that capture birds alive, so that harmless species can be released. Such a trap is shown in figure 4, and a commercial "basket" trap is illustrated in figures 5 and 6.

A cage with a live hawk or owl in it attracts other birds of the same kind, and may be placed near a pole or basket trap to decoy any of these birds that visit the farm.

Crows and magpies feed on the eggs and young of poultry when they are given the opportunity, especially during their own breeding seasons. Methods of reducing the numbers of these birds are described in Technical Bulletin 24, The Magpie in Relation to Agriculture,[5] and Farmers' Bulletin 1102, The Crow in Its Relation to

[3] A trap is set "heavy" when considerable force is needed to depress the pan; it is set "light" when it will spring at the least touch.

[4] Pole traps are now outlawed in New Jersey; traps that suspend captives alive are illegal in New York; and there are restrictions on the use of steel traps in Massachusetts and in South Carolina.

[5] For sale at 10 cents a copy by the Superintendent of Documents, Government Printing Office, Washington, D.C.

Agriculture. Advice on dealing with special problems can be obtained by writing to the Bureau of Biological Survey. If all possible preventive measures are employed, it will be no more necessary to employ aggressive measures to protect poultry against the attacks of crows and magpies than against those of hawks and owls.

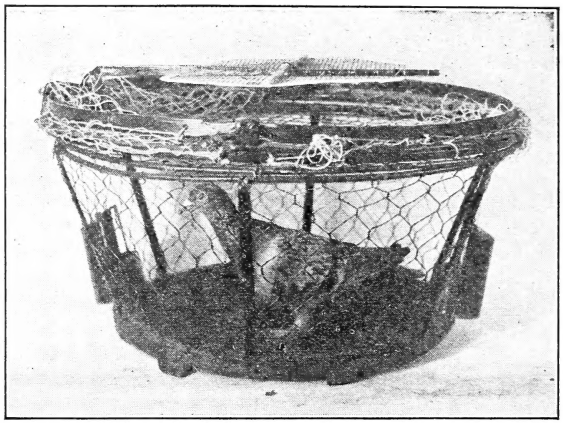

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FIGURE 5.—Commercial basket trap for hawks, with pigeon for bait. As the hawk depresses the wire-floor trigger, the jaws with accompanying netting are released upward and imprison the predator. (See also figure 6.)

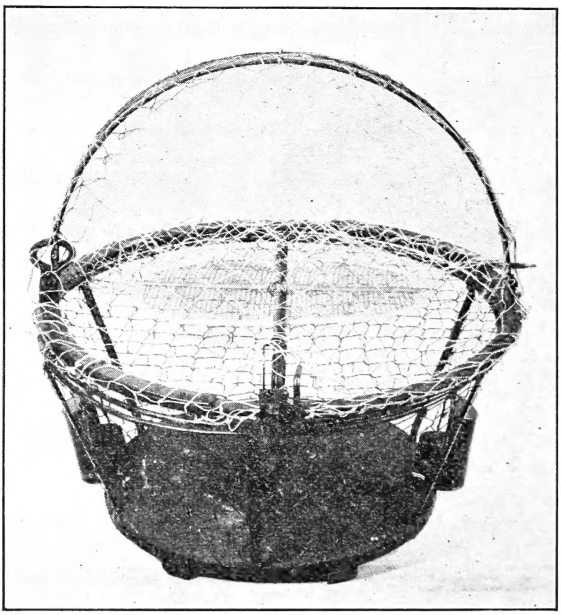

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FIGURE 6.—Trap shown in figure 5, unbaited and sprung.

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